

ANDREW YUILL & CO. LTD.
I & S. UNIT
MADRAS 600 096.



MATERIAL INSPECTION PLAN

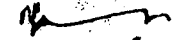
QAP - 105

CRGO Silicon Steel Laminations

Method of inspection :

1. Verification of manufacturer's test certificates for the following parameters:
 - a) Dimensions.
 - b) Watt loss
2. Checks on the material at our works.
 - a) Dimension on one sample of each size.

Prepared by : B. Muthuraman
Designation : A M - QC
Date : 30/8/95

Approved by : 
Designation : D M - QC
Date : 30/8/95



**SPECIFICATION FOR C.R.G.O. STEEL
(PART I)**

PART I :: Applicable for CRGO steel sheets/coils
PART II :: Applicable for CRGO steel cut laminations

PART I

I. GENERAL REQUIREMENT

Type : Cold rolled grain oriented silicon steel sheets/coils.
Application : For transformer core lamination

II. SPECIFICATION

a. Reference Standard : BS 601(Part 2)/1973
b. Material composition : CRGO sheet in coil/sheet form having silicon content of 3% approx.
c. Material Characteristics follows : The required characteristics are as

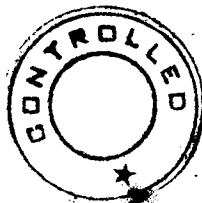
Characteristics	Unit	Required value	Tolerance
i) Thickness of lamination	mm	0.28 or 0.27	+/- 0.03mm
ii) Specific core-loss at 1.5T at 50 Hz	W/Kg	0.89	MAX
iii) Density of lamination	g/cc	7.65 approx.	
iv) Condition of Surface		Surface shall be free from waviness, oil & grease deposits	
v) Resistance to surface coating		The sheet shall be uniformly coated with insulation & shall be suitable for annealing at 800 degree C	

III. TESTS :
Test certificate indicating specific core loss for each coil shall be furnished.

IV. PACKING :
Packing should be sea worthy. Material should be first protected by weather proof paper covering & further by sheet metal packing on all sides, strapped and installed on wooden skids in vertical position for container shipment. In case of bulk on board consignment, the coil shall be protected by suitable wooden repeats.

V. DOCUMENTS:
Test certificate for each coil should accompany each consignment.

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Revision	Description	Prepared	Approved	Date



GDDA



PART II : Applicable for CRGO steel cut laminations

I. GENERAL REQUIREMENT :

Type : Cold rolled grain oriented silicon steel laminations cut to size as per our drg. All dimensions shall be as per our drg.

II. SPECIFICATION :

Material characteristics :: The required characteristics are as follows:

Characteristics	Unit	Required value	Tolerance
i) Thickness of lamination	mm	0.28 or 0.27	+/-0.03mm
ii) Condition of surface		Surface shall be free of waviness, oil & grease deposits.	
iii) Edge burr	mm	0.05	Max

III. TESTS :

Test certificate indicating dimensional check carried out shall be furnished.

IV. PACKING :

Core lamination shall be packed with weather proof cover and strapped to wooden pallets/case not exceeding 1500 kgs per pallet/case for ease in handling. Care shall be taken to protect the edges of the stacked laminations at the places of strapping.

Each pallet shall contain a packing slip incorporating the following :

1. Size
2. Quantity in kgs(Nett and gross) each step.
3. Reference Drg. no.
4. Our F.O. NO.

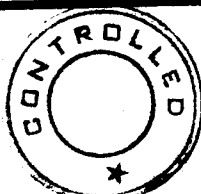
V. DOCUMENTS :

Test certificate should accompany each consignment

VI. ACCEPTANCE CRITERIA :

As per SPT 113 (For Internal use only)

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SPEC. No. SPT 113

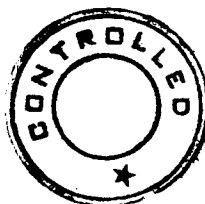
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SPT 113

L ACCEPTANCE CRITERIA FOR CRGO CUT LAMINATION FOR SPEC.NO. SMM 101

SL.NO	CHARACTERISTICS	UNIT	REQUIRED VALUE	TOLERANCE
01	Core loss at 1.5T at 50 Hz	w/kg	0.89	MAX
02	Length	mm	As per Drawing	UP TO 1000: -0.5 Above 1000: -1.0
03	Width	mm	As per Drawing	Up TO 500: -0.3 Above 500: -0.5
04	Thickness	mm	As per Drawing	+/-0.03
05	Hole Dia	mm	As per Drawing	+0.5

Revision	Description	Prepared	Approved	Date
1	Tolerance for Length & Width added			23-11-02
0	FIRST ISSUE			10-1-97



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